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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,859	01/24/2006	Makoto Funabiki	MAT-8809US	7945
23122	7590	08/25/2008		
RATNERPRESTIA			EXAMINER	
P O BOX 980			ANWAR, MOHAMMAD S	
VALLEY FORGE, PA 19482-0980				
		ART UNIT	PAPER NUMBER	
		4125		
		MAIL DATE	DELIVERY MODE	
		08/25/2008	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,859

Applicant(s)

FUNABIKI ET AL.

Examiner

MOHAMMAD ANWAR

Art Unit

4125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-33 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10565859.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 1/24/06, 3/13/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 1-40 should have proper descriptive legends such as CN (Correspondent Node). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 15 and 33 are objected to because of the following informalities:

In claim 15 line 8 recites "access router apparatuses" which seems to refer to "access router apparatuses" in line 2. If this true, it is suggested to change the "access router apparatuses" to ----the access router apparatuses----. Similar problem exists in claim 17 line 3, and claim 26 line 7.

In claim 33 line 5 recites "buffer note". This is a typographical error; it should be "buffer node".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-15, 18-29, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7 line 20 recites "the home agent" which lacks antecedent basis.

In claim 9 line 3 recites "the movement destination mobile IP" which lacks antecedent basis.

In claim 10 line 4 recites "the new care-of address field" which lacks antecedent basis.

In claim 14 line 13 recites "the pre-movement source access router apparatus" which lacks antecedent basis. Similar problem exists in claim 14 lines 15, and line 17, claim 15 lines 13, 15, and 16, claim 18 line 2, claim 20 lines 3, and 5, claim 21 line 4, and claim 23 line 3.

In claim 14 line 15 recites "the movement-destination access router apparatus" which lacks antecedent basis. Similar problem exist in claim 14 lines 19, 20 and line 23, claim 15 lines 15,18, and 20, Claim 18 lines 4 and 6, claim 19 lines 3, 4 and 7, claim 20 line 4, claim 23 line 6, claim 24 lines 5, and 6 claim 25 line 3, and claim 26 line 10.

In claim 22 lines 4 and 8 recites "the mobile communication apparatus" which lacks antecedent basis. Similar problem exists in claim 23 line 4, and claim 25 line 5.

In claim 26 line 4 recites "the compliance/noncompliance" which has no antecedent basis. Similar problem exists in claim 28 line 3.

In claim 24 line 3 recites "the access router information server apparatus" which lacks antecedent basis.

In claim 34 line 4 recites "the mobile communication apparatus" which lacks antecedent basis. Similar problem exists in claim 34 lines 8 and 10.

Claims 11-13 are rejected because they are dependent on claim 9. Claim 33 is rejected because it is dependent on claim 14. Claim 27 is rejected because it is dependent on claim 26. Claim 29 is rejected because it is dependent on claim 28.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 7, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable by Chaskar et al. (20040137902) in view of Norgard et al. (20050105475).

For claims 1, and 7, Chaskar et al. disclose a step in which the mobile communication apparatus during its movement detects a signal from a movement-destination access router apparatus (see paragraph 67 lines 1-15); and a step in which in the case where the mobile communication apparatus has determined that the pre-movement source access router apparatus does not comply with Fast Mobile IP when detecting the signal (paragraph 23 lines 1-14, paragraph 26 lines 1-7), the mobile communication apparatus requests a home agent apparatus for information on the movement-destination access router apparatus (see paragraph 65 lines 3-4), and the home agent apparatus responds to the request (see paragraph 65 lines 11-13), providing information on the movement-destination access router apparatus to the mobile communication apparatus (see paragraph 65 lines 17-18), and the mobile communication apparatus instructs the home agent to forward data addressed to the mobile communication apparatus to the movement-destination access router apparatus (see paragraph 65 lines 18-21). Chaskar et al. disclose all the subject matter but fails to mention a step in which a mobile communication apparatus determines whether a pre-movement source access router apparatus connected therewith complies with Fast Mobile IP or not. However, Norgard et al. from a similar field of endeavor disclose a step in which a mobile communication apparatus determines whether a pre-movement source access router apparatus connected therewith complies with Fast Mobile IP or not (see paragraph 24 lines 1-7, paragraph 54 lines 1-8). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Norgard et al. router compliance scheme into Chaskar et al. routing scheme. The

method can be implemented in the hardware and software. The motivation of doing this is to make sure the router complies with the format of data.

For claims 14 & 15 Chaskar et al. disclose a mobile communication system comprising a network having plural sub-networks (see Figure 1), access router apparatuses connected to the sub-networks, a mobile communication apparatus making packet communications with the network through the access router apparatuses (see paragraph 5 lines 1-24, figure 7), a home agent apparatus connected to the network which implements mobile management of the mobile communication apparatus moving between sub-networks (see Figure 6), and at least one correspondent node connecting to the network (see paragraph 48 lines 1-2), which makes communication with the mobile communication apparatus (see paragraph 65 lines 1-24), in which the access router apparatuses which comply with Fast Mobile IP are intermixed with those which do not comply with it (see paragraph 65 lines 1-24), and the mobile communication apparatus (see paragraph 65 lines 1-24), after moving to a different sub-network (see paragraph 65 lines 1-24), makes a location registration to the home agent apparatus to continue the communication with the correspondent node (see paragraph 65 lines 1-24), the mobile communication apparatus requests the home agent apparatus for information on the movement-destination access router apparatus (see paragraph 65 lines 1-24, the home agent apparatus provides the information on the movement-destination access router apparatus to the mobile communication apparatus in response to the request (see paragraph 65 lines 1-24), and the mobile communication apparatus instructs the home agent apparatus to forward data addressed to the mobile

communication apparatus to the movement-destination access router apparatus (see paragraph 65 lines 1-24). Chaskar et al. disclose all the subject matter but fails to mention wherein the mobile communication apparatus has a function of determining whether the access router apparatus complies with Fast Mobile IP or not, and if it determines that the pre-movement source access router apparatus complies with Fast Mobile IP, acquires information on the movement-destination access router apparatus from the pre-movement source access router apparatus to implement a Fast Mobile IP procedure, and if the mobile communication apparatus determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP. However Norgard et al. from a similar field of endeavor disclose wherein the mobile communication apparatus has a function of determining whether the access router apparatus complies with Fast Mobile IP or not (see paragraph 24 lines 1-7, paragraph 54 lines 1-8), and if it determines that the pre-movement source access router apparatus complies with Fast Mobile IP (see paragraph 24 lines 1-7, paragraph 54 lines 1-8), acquires information on the movement-destination access router apparatus from the pre-movement source access router apparatus to implement a Fast Mobile IP procedure (see paragraph 92 lines 1-4), and if the mobile communication apparatus determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP (see paragraph 97 lines 1-3). Thus, it would have been obvious to one ordinary skill in the art to include Norgard et al. compliance scheme into Chaskar et al. Mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to avoid packet loss.

10. Claims 2-6, 8-10, 16-21, 28-29, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaskar et al. in view of Norgard et al. as applied to claims 1,7,14,15 above, and further in view of Leung (6636498).

For claim 2, Chaskar et al. & Norgard et al. disclose all the subject matter but fails to mention wherein the home agent apparatus stores information on access router apparatuses and searches and gives information on the movement-destination access router apparatus in accordance with a request by the mobile communication apparatus (see column 14 lines 8-12, column 8 lines 1-6). However, Leung from a similar field of endeavor discloses wherein the home agent apparatus stores information on access router apparatuses and searches and gives information on the movement-destination access router apparatus in accordance with a request by the mobile communication apparatus (see column 14 lines 8-12, column 8 lines 1-6). Thus, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include Leung storing and searching scheme into Chaskar et al. & Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide a smooth handover procedure from one region to another.

For claim 3, Chaskar et al. and Norgard et al. disclose all the subject matter but fails to mention wherein the home agent apparatus makes inquiries about information on the movement-destination access router apparatus to an access router information server apparatus storing information on access router apparatuses, in accordance with

the request by the mobile communication apparatus, and gives the information to the mobile communication apparatus. However, Leung from a similar field of endeavor discloses wherein the home agent apparatus makes inquiries about information on the movement-destination access router apparatus to an access router information server apparatus storing information on access router apparatuses (see column 5 lines 46-53, column 13 lines 47-67, column 14 lines 1-12) in accordance with the request by the mobile communication apparatus (see column 13 lines 47—57), and gives the information to the mobile communication apparatus (see column 3 lines 58-62). Thus it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung storing scheme into Chaskar et al. & Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide a smooth handover procedure from one region to another.

For claim 4, and 28, Chaskar et al. and Norgard et al. disclose all the subject matter but fails to mention wherein the mobile communication apparatus notifies the home agent apparatus of an identifier tag of the movement-destination access router apparatus, and the home agent apparatus searches or inquires about information on the movement-destination access router apparatus based on the identifier tag. However, Leung from a similar field of endeavor discloses wherein the mobile communication apparatus notifies the home agent apparatus of an identifier tag of the movement-destination access router apparatus (see column 7 lines 31-46), and the home agent apparatus searches or inquires about information on the movement-destination access router apparatus based on the identifier tag (see column 8 lines 1-29, Figure 5). Thus, it

would have been obvious to one ordinary skill in the art at the time invention was made to include Leung identification scheme into Chaskar et al. and Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide an identification method for routing packet from one region to another.

For claims 5, and 29, Chaskar et al. & Norgard et al. disclose all the subject matter but fails to mention wherein the identifier tag of the movement-destination access router is either a lower layer address or a cell station ID. However, Leung from a similar field of endeavor discloses wherein the identifier tag of the movement-destination access router is either a lower layer address or a cell station ID (See Figure 5 column 4 lines 65-67). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung identification scheme into Chaskar et al. and Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide an identification method for routing packet from one region to another.

For claim 6, Chaskar et al. & Norgard et al. disclose all the subject matter but fails to mention a step in which when the home agent apparatus could not acquire information on the movement-destination access router apparatus, the home agent apparatus notifies the mobile communication apparatus accordingly. However, Leung from a similar field of endeavor discloses a step in which when the home agent apparatus could not acquire information on the movement-destination access router apparatus (see column 15 lines 25-27), the home agent apparatus notifies the mobile

communication apparatus accordingly (see column 15 lines 36-38). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung acquiring scheme into Chaskar et al. and Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to acquire and notify router information in a timely manner.

For claim 8, Chaskar et al. disclose the mobile communication apparatus instructs the home agent apparatus to forward data addressed to the mobile communication apparatus to the movement-destination access router apparatus (see paragraph 65 lines 19-21). Chaskar et al. disclose all the subject matter but fails to mention a step in which when the mobile communication apparatus determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP, and the movement-destination access router apparatus complies with Fast Mobile IP, a step in which the home agent apparatus establishes a tunnel between the home agent apparatus and the movement-destination access router apparatus and notifies the establishment thereof to the mobile communication apparatus; and a step in which the movement-destination access router apparatus receives via the tunnel data addressed to the mobile communication apparatus and forwards the data to the mobile communication apparatus. However, Norgard et al from a similar field of endeavor disclose a step in which when the mobile communication apparatus determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP (paragraph 23 lines 1-14, paragraph 26 lines 1-7), and the movement-destination access router apparatus complies with Fast Mobile IP (paragraph 23 lines 1-14,

paragraph 26 lines 1-7). Thus it would have been obvious to one ordinary skill in the art at the time of invention was made to include Norgard et al. compliance scheme into Chaskar et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to make sure the router is compliant to the format of data. Chaskar et al. and Norgard et al. disclose all the subject matter but fails to mention a step in which the home agent apparatus establishes a tunnel between the home agent apparatus and the movement-destination access router apparatus and notifies the establishment thereof to the mobile communication apparatus; and a step in which the movement-destination access router apparatus receives via the tunnel data addressed to the mobile communication apparatus and forwards the data to the mobile communication apparatus. However, Leung from a similar field of endeavor discloses a step in which the home agent apparatus establishes a tunnel between the home agent apparatus and the movement-destination access router apparatus and notifies the establishment thereof to the mobile communication apparatus (see column 15 lines 36-38); and a step in which the movement-destination access router apparatus receives via the tunnel data addressed to the mobile communication apparatus and forwards the data to the mobile communication apparatus (see column 15 lines 38-47). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Chaskar et al. & Norgard et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite data transfer.

For claim 9, Chaskar et al. disclose the mobile communication apparatus instructs the pre-movement source access router apparatus to forward data addressed to the mobile communication apparatus to the home agent apparatus (see paragraph 65 lines 23-24). Chaskar et al. disclose all the subject matter but fails to mention a step in which when the mobile communication apparatus determines that the pre-movement source access router apparatus complies with Fast Mobile IP and the movement-destination mobile IP does not comply with Fast Mobile IP, a step in which the pre-movement source access router apparatus establishes a tunnel between the pre-movement source access router apparatus and the home agent apparatus and notifies the establishment thereof to the mobile communication apparatus; and a step in which the home agent apparatus forwards data addressed to the mobile communication apparatus received via the tunnel to the mobile communication apparatus. However Norgard et al. from a similar field of endeavor disclose a step in which when the mobile communication apparatus determines that the pre-movement source access router apparatus complies with Fast Mobile IP and the movement-destination mobile IP does not comply with Fast Mobile IP (paragraph 23 lines 1-14, paragraph 26 lines 1-7). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Norgard et al. compliance scheme into Chaskar et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to make sure the router is data format compliancy. Chaskar et al. and Norgard et al. disclose all the subject matter but fails to mention a step in which the pre-movement source access router apparatus establishes a tunnel between the pre-

movement source access router apparatus and the home agent apparatus and notifies the establishment thereof to the mobile communication apparatus; and a step in which the home agent apparatus forwards data addressed to the mobile communication apparatus received via the tunnel to the mobile communication apparatus. Leung from a similar field of endeavor discloses a step in which the pre-movement source access router apparatus establishes a tunnel between the pre-movement source access router apparatus and the home agent apparatus and notifies the establishment thereof to the mobile communication apparatus (see column 15 lines 36-38); and a step in which the home agent apparatus forwards data addressed to the mobile communication apparatus received via the tunnel to the mobile communication apparatus (see column 15 lines 38-47). Thus it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Chaskar et al. & Norgard et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite routing packet from one region to another.

For claims 10 & 21, Chaskar et al. & Norgard et al. discloses all the subject matter but fails to mention wherein the instruction given by the mobile communication apparatus with respect to the pre-movement source access router apparatus is one in which the address of the home agent apparatus is written in the new care-of address field of a fast binding update message according to a Fast Mobile IP procedure. However, Leung from a similar field of endeavor discloses wherein the instruction given by the mobile communication apparatus with respect to the pre-movement source

access router apparatus is one in which the address of the home agent apparatus is written in the new care-of address field of a fast binding update message according to a Fast Mobile IP procedure (see column 5 lines 49-53). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung binding scheme into Chaskar et al. & Norgard et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide a proper addressing scheme for routing packet from one region to another.

For claims 16, and 34, Chaskar et al. disclose all the subject matter but fails to mention a mobile IP/Fast Mobile IP processing part for implementing standard Mobile IP processing and Fast Mobile IP processing; an access router searching part for acquiring information on access router apparatuses from the mobile IP/Fast Mobile IP processing part; a Fast Mobile IP compliance determining part for determining whether an access router apparatus complies with Fast Mobile IP based on the information acquired at the access router searching part; and a Fast Mobile IP control part for controlling the contents of a message generated by the mobile IP/Fast Mobile IP processing part based on the result of operation of the Fast Mobile IP compliance determining part. However, Norgard et al. from a similar field of endeavor disclose a Fast Mobile IP compliance determining part for determining whether an access router apparatus complies with Fast Mobile IP based on the information acquired at the access router searching part (see paragraph 24 lines 1-7, paragraph 54 lines 1-8). Thus, it would have been obvious to one ordinary skill in the art to include Norgard et al. compliance scheme into Chaskar et al. Mobile IP routing scheme. The method can be implemented

in the hardware and software. The motivation of doing this is to avoid packet loss.

Chaskar et al. & Norgard et al. disclose all the subject matter but fails to mention a mobile IP/Fast Mobile IP processing part for implementing standard Mobile IP processing and Fast Mobile IP processing; an access router searching part for acquiring information on access router apparatuses from the mobile IP/Fast Mobile IP processing part; and a Fast Mobile IP control part for controlling the contents of a message generated by the mobile IP/Fast Mobile IP processing part based on the result of operation of the Fast Mobile IP compliance determining part. However, Leung from a similar field of endeavor discloses a mobile IP/Fast Mobile IP processing part for implementing standard Mobile IP processing and Fast Mobile IP processing (see Column 17 lines 6-11); an access router searching part for acquiring information on access router apparatuses from the mobile IP/Fast Mobile IP processing part (see column 8 lines 1-4); and a Fast Mobile IP control part for controlling the contents of a message generated by the mobile IP/Fast Mobile IP processing part based on the result of operation of the Fast Mobile IP compliance determining part (see column 17 lines 17-20). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung processing and controlling into Chaskar et al. & Norgard et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to avoid packet loss and routing packet from one region to another.

For claim 17, Chaskar et al. disclose wherein the information on the access router apparatuses is acquired from a home agent apparatus which manages

movements of the mobile communication apparatus between sub-networks or from an access router apparatus (see paragraph 64 lines 1-11).

For claims 18 & 19 & 20, Chaskar et al disclose all the subject matter but fails to mention wherein if the Fast Mobile IP compliance determining part determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP, the Fast Mobile IP control part gives identifying information of the movement-destination access router apparatus to the home agent apparatus or an access router information server apparatus and controls the mobile IP/Fast Mobile IP processing part so as to request information on the movement-destination access router. However, Norgard et al. from a similar field of endeavor mention wherein if the Fast Mobile IP compliance determining part determines that the pre-movement source access router apparatus does not comply with Fast Mobile IP (see paragraph 24 lines 1-7, paragraph 54 lines 1-8). Thus, it would have been obvious to one ordinary skill in the art to include Norgard et al. compliance scheme into Chaskar et al. Mobile IP routing scheme. Chaskar et al. & Norgard et al. disclose all the subject matter but fails to mention the Fast Mobile IP control part gives identifying information of the movement-destination access router apparatus to the home agent apparatus or an access router information server apparatus and controls the mobile IP/Fast Mobile IP processing part so as to request information on the movement-destination access router (see column 8 lines 1-4, column 17 lines 17-20). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung processing and controlling into Chaskar et al. & Norgard et al. mobile IP routing and compliance scheme. The method can be

implemented in the hardware and software. The motivation of doing this is to avoid packet loss and routing packet from one region to another.

11. Claims 11- 13, 22, 23-27 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaskar et al. in view of Norgard et al. as applied to above claims, and further in view of Leung and further in view of Okajima et al. (20040114554).

For claims 11, 22, 23, 30, 31, and 33, Chaskar et al., Norgard et al. and Leung disclose all the subject matter but fails to mention a step in which the home agent apparatus starts buffering in the case that buffering is possible when the home agent apparatus receives an instruction from the pre-movement source access router apparatus for buffering transmission data addressed to the mobile communication apparatus. However, Okajima et al. from a similar field of endeavor disclose a step in which the home agent apparatus starts buffering in the case that buffering is possible when the home agent apparatus receives an instruction from the pre-movement source access router apparatus for buffering transmission data addressed to the mobile communication apparatus (see paragraph 15 lines 1-17). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Okajima et al. buffering scheme into Chaskar et al., Norgard et al. and Leung mobile IP routing, compliance and binding scheme. The method can be implemented in the hardware. The motivation of doing this is to avoid packet loss.

For claim 12, Chaskar et al., Norgard et al. and Leung disclose all the subject matter but fails to mention a step in which the home agent apparatus notifies the start of the buffering to the pre-movement source access router apparatus. However, Okajima

et al. from a similar field of endeavor discloses a step in which the home agent apparatus notifies the start of the buffering to the pre-movement source access router apparatus (see paragraph 19 lines 26—29). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Okajima et al. buffering scheme into Chaskar et al., Norgard et al. and Leung mobile IP routing, compliance and binding scheme. The method can be implemented in the hardware. The motivation of doing this is to avoid packet loss.

For claim 13, Chaskar et al., Norgard et al. and Leung disclose all the subject matter but fails to mention wherein in the case that the buffering is impossible, the home agent apparatus, notifies the pre-movement source access router apparatus that buffering cannot be executed. However Okajima et al. from a similar field of endeavor discloses wherein in the case that the buffering is impossible (paragraph 19 lines 10-20), the home agent apparatus (paragraph 19 line 3), notifies the pre-movement source access router apparatus that buffering cannot be executed (see paragraph 214 lines 8-21). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Okajima et al. buffering scheme into Chaskar et al., Norgard et al. and Leung mobile IP routing, compliance and binding scheme. The method can be implemented in the hardware. The motivation of doing this is to avoid packet loss.

For claim 24, Chaskar et al., Norgard et al. and Okajimi et al. disclose all the subject matter but fails to mention a movement-destination access router searching part for requesting the access router information server apparatus which stores information

on access router apparatuses for information on the movement-destination access router in response to the inquiry of information on the movement-destination access router apparatus, and giving the requesting device the acquired information.

However, Leung from a similar field of endeavor discloses a movement-destination access router searching part for requesting the access router information server apparatus which stores information on access router apparatuses for information on the movement-destination access router in response to the inquiry of information on the movement-destination access router apparatus, and giving the requesting device the acquired information (see column 8 lines 1-4). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung searching strategy into Chaskar et al., Norgard et al., & Okajimi et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to avoid packet loss and routing packet from one region to another.

For claims 25, and 26, Chaskar et al., Norgard et al. & Okajimi et al. disclose all the subject matter but fails to mention wherein the movement-destination access router searching part makes a request to the access router information server apparatus based on an identifier tag of the movement-destination access router apparatus acquired when the movement-destination access router searching part receives the request from the mobile communication apparatus. However, Leung from a similar field of endeavor discloses wherein the movement-destination access router searching part makes a request to the access router information server apparatus based on an

identifier tag of the movement-destination access router apparatus acquired when the movement-destination access router searching part receives the request from the mobile communication apparatus. (see column 7 lines 31-46, column 8 lines 1-29, Figure 5). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung identification scheme into Chaskar et al., Norgard et al. & Okajimi et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide an identification method for routing packet from one region to another.

For claim 27, Chaskar et al., Norgard et al. and Okajimi et al. disclose all the subject matter but fails to mention wherein the identifier tag of the access router apparatus is either a lower layer address or a cell station ID. However, Leung from a similar field of endeavor discloses wherein the identifier tag of the access router apparatus is either a lower layer address or a cell station ID (See Figure 5 column 4 lines 65-67). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung identification scheme into Chaskar et al., Norgard et al. and Okajimi et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide an identification method for routing packet from one region to another.

For claim 32, Chaskar et al., Norgard et al., and Okajimi disclose all the subject matter but fails to mention wherein a tunnel is established in the data transmission between the home agent apparatus and the buffer node or the data transmission between the buffer node and the mobile communication apparatus or both. However,

Leung from a similar field of endeavor discloses wherein a tunnel is established in the data transmission between the home agent apparatus and the buffer node or the data transmission between the buffer node and the mobile communication apparatus or both (see column 15 lines 38-47). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Chaskar et al., Norgard et al., and Okajimi et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite data transfer.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suh et al. (20050163080) and Song et al. (7174166).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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